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THE LYME PARK HERD OF WILD WHITE CATTLE.

By CHARLES OLDHAM.

THE white cattle of Lyme Park, Cheshire, have gone the way of all flesh, and the very memory of them bids fair soon to be lost, or at best to be numbered with the many legends and traditions already associated with Lyme, and the Legh family, in whose possession this property has been for nearly four hundred years.

Mr. James Croston states that, according to popular tradition, the white cattle were brought from the Lancashire forests by Sir Peter Legh, who was appointed Steward of Blackburnshire in 1505;* but it is more probable that the park animals were descended from those which formerly roamed over the wild country constituting the ancient Forest of Macclesfield, and which were imparked, together with the Red-deer, at the end of the fourteenth century.†

Bewick, writing in 1790, mentions the herd, but gives no particulars of it. The following account is from Hansall's 'History of Cheshire,' which was published in 1817:—"In Lyme Park, which contains about one thousand Cheshire acres, is a herd of upwards of twenty wild cattle, similar to those in Lord Tankerville's park, at Chillington (*sic*), chiefly white, with red

* 'Croston, 'Historic Sites of Lancashire and Cheshire,' p. 338.

† Lyme was granted by letters patent, dated at Chester, Jan. 4th, 1398, to Sir Piers Legh and Margaret his wife, for services rendered by Sir Thos. D'Anyers, Margaret's father. See Croston, *op. cit.*, p. 295.

ears. They have been in the park from time immemorial, and tradition says they are indigenous. In the summer season they assemble on the high lands, and in winter seek shelter in the park woods. They were formerly fed with holly branches, with which trees the park abounded; but these being destroyed, hay now is substituted. Two of the cows are shot annually for beef."

In 1859 a cow and a bull-calf, the last of the remaining animals of the Gisburne hornless herd, were brought to Lyme, but this cross was unsuccessful for several reasons; and the introduction of new blood, in the place of a bull from Chartley, about the year 1871, and subsequently a heifer-calf from Vaynol,* came too late to save the herd, already reduced to very narrow limits from utter extinction. The bull sent in exchange to Chartley was considered unsuitable as a cross, and was slaughtered. The head, I believe, is now preserved at Chartley Hall.

When the Rev. John Storer was at Lyme, in August, 1875, there were four animals besides the Chartley bull, and at the time of Mr. A. H. Cocks's visit, in June, 1877,† these were still alive, and two heifer-calves had been born, which with the Vaynol heifer made a total of eight head, viz.:—

(1). An old bull said to be dying of old age, and to be eleven or twelve years old, though referred to by Mr. Storer, in 1875, as three years old.

(2). A bull, brought from Chartley as a yearling.

(3). A cow, aged about ten.

(4). A black cow, out of the old cow, by the Chartley bull, rising or turned five probably.

(5). A heifer, about two years old, by the old bull out of the old cow.

(6). A heifer, about eighteen months old, out of the black cow by the old bull.

(7). A heifer calf, by the Chartley bull, out of a domestic cow.

(8). A heifer calf from Vaynol.‡

In August, 1884, Mr. T. A. Coward found only three animals surviving:—the black cow (4); the cow (5); and a young bull, out of the black cow by the Chartley bull.

* Storer, 'Wild White Cattle,' p. 290.

† A. H. Cocks, 'Zoologist,' 1878, p. 278.

‡ For this list, see Report of Brit. Assoc. 1887, p. 139.

The old bull (1) died in the spring of 1880, and must then have been at least fourteen years old. The Chartley bull (2), whose temper rendered him too dangerous to keep, was shot in 1882 or 1883, and his carcase sold to the butcher. The old cow (3) was shot in the winter of 1883-4; she was then nearly seventeen years old, and very feeble. The skull of this animal is preserved at the Hall, and the skin, roughly dressed, serves as a rug in one of the bed-rooms at The Cage, an old hunting-tower, where in by-gone days the ladies of Lyme were wont to witness, without fatigue, the hunting of the wild bull, and other sylvan sports, secure from the danger which a more active part in the chase involved. The black cow (4),* and the cow (5), were shot by Haig, the shepherd, in November, 1885, and their carcasses cut up for beef; they were the last surviving animals in whose veins the blood of the old Lyme bulls ran, and when killed their ages were respectively twelve and nine years. I have not been able to trace the fate of the heifer (6), nor of the Vaynol heifer (8). I believe that the young bull which Mr. Coward saw in August, 1884, was steered, and fattened for the butcher. The heifer (7) was also fattened and killed, and, so far as I can learn, never ran with the herd.

I have been able to collect but little evidence as to the habits of the cattle. John Sigley, the old keeper, who would perhaps have been able to give me more information than anyone else, has been dead five or six years. Old Jim Arden, who has been at Lyme, man and boy, for seventy years or more, knew the cattle well, and remembers when the herd was as large as that at Chartley is now; he seems to have been particularly impressed with their grand carriage and action, and their superior size, as compared with the Chartley bull. He constantly spoke of the cattle as "wild beasts,"† a name probably in use since the time when they were at large in Macclesfield Forest. Mr. Jas. E. Pardey, the agent for the estate, told me that, between 1856 and 1860, there were from thirty to five and thirty head of wild cattle in the park; he described the black cow as having a very bad temper, which was confirmed by old Arden, who chuckled as he

* For a detailed description of this animal, see 'Zoologist,' 1878, p. 278.

† This term is also used in the neighbourhood of Chartley, see Storer, *op. cit.* p. 220.

related how Sigley had more than one narrow escape from her horns while feeding the cattle in the winter.

During the summer months the cattle occupied the wild and picturesque part of the demesne known as the Park Moor, in fine weather frequenting the higher ground, "up by the Knight's Castle and the Bow-stones Gate," as an old villager put it, but on the approach of rain they invariably kept to the sheltered valleys; and more than one person in the neighbourhood used to consult this natural barometer, just as the villagers of Chatton do the Chillingham herd on the sides of Rosscastle at the present day. In winter they were confined in a walled yard, containing ample sheds, and communicating with a large paddock,



Form of Horn prior to the Gisburne cross in 1859.

at a short distance from the Hall. Here they were fed with hay, but never had either cake or turnips.

The bulls were steered as calves. Had the wiser policy, adopted at Chillingham, of steering the animals when from two to four years old, and thereby ensuring a good bull selection, been practised at Lyme, the cattle might have survived till now, for one cause of the decline of the herd was the retention at one time of a single bull, which proved infertile.* When it was necessary to secure one of the animals for any purpose a strong rope with a running noose was thrown over its horns or neck, and the free end of the rope passed through an iron ring, made fast in a stone block in the floor of the yard. Owing to the strength and ferocity of the beasts, particularly if full grown, it was no safe nor easy matter to haul them up to the ring, where of course they were comparatively powerless, and Arden told me that, in his younger days, all the available men and boys about

* Storer, *op. cit.*, p. 249.

the place assisted in the task, and enjoyed the fun "as much as any wakes." A terror to poachers and others who invaded their haunts, the cattle retained their hereditary wildness and timidity to the last, and the discharge of a gun was sufficient to send them off at a rattling pace with heads and tails erected.

So long as the size of the herd permitted, one or two animals were shot at Christmas, and some of the beef (which has been described to me by those who have tasted it as beautifully marbled, and of excellent flavour) was always forwarded to Her Majesty the Queen.



Form of Horn after the Gisburne cross.

The Lyme cattle were larger than those of any of our existing park breeds, and are described as having been long in the body, with strong bone, much substance, and a large amount of flesh about the head and dewlap. They had an abundance of long rough hair, which was curly and mane-like on the head and fore-quarters in the males.* The general coloration seems to have been white, with black muzzles and hoofs, and frequently some black on the fore legs. The ears were black or red, but seem latterly, at any rate, to have varied considerably, and were occasionally, as at Chartley and Somerford, entirely white. Mr. Storer says there was a black circle round the eyes,† but no trace of this is present in either of the stuffed heads I have seen. There is no record of any departure from the legitimate white ground-colour, though Hansall speaks of the cattle as "chiefly white," until the birth of the black calf, so often mentioned in

* See Dr. Sainter's paper on Lyme Park, Proc. North Staffs. Field Club, 1877; and Harting, 'Extinct British Animals,' p. 241.

† Storer, *op. cit.*, p. 252.

these notes; and Arden and others, who had known the breed for many years, were not a little surprised when the old cow appeared on the moor with the little black creature at her heels. The further use of the Chartley sire was consequently looked upon with disfavour.

I am indebted to Mr. Legh for permission to make measurements and photographs of the skulls, horns, and stuffed head at the Hall, and I have also been able to examine a stuffed head in the possession of Mrs. John Legh, of Hall Barns.

Two skulls are preserved, the horn-sheaths being attached in each case. One, belonging to an old cow, was exhibited at Owen's College, at the Manchester meeting of the British Association in 1887; it has a very convex forehead, and is considered by Mr. Storer to resemble closely the skull of the Urus, especially in the way in which the horns are set on.* The other skull, belonging to the old cow shot in the winter of 1883-4, is narrower, and has comparatively a much longer face, with concave depressions on either side of the forehead, and a prominence in the centre. The horns in this skull are of the drooping, long-horn character, and exhibit the curious influence of the Gisburne cross.† (See woodcut, p. 85.)

MEASUREMENTS (IN INCHES) OF SKULLS.

	Length, from supra occipital ridge to pre-maxillary.	Width between bases of horn-cores.	Width between orbits.	Circumference of horn-cores.	Length of horn round outer curve.	Span of horns.
No. 1 (figured).	19·6	8·25	8·0	9·2	16·8	30·3
No. 2 . . .	19·9	7·2	6·5	6·3	17·8	10·8

There are three pairs of horns, one resembling those of the older skull (No. 1), and showing the form of horn prior to the Gisburne cross (see woodcut, p. 84); the second is distinctly of the long-horn type; and the third exhibits a very erratic character,

* Storer, *op. cit.*, p. 253.

† Storer, *op. cit.*, p. 251.

one horn being deflected, and the other raised; a cow's head with horns similarly curved is preserved at Chartley Hall.

The head at the Hall is but indifferently preserved, and has been over-stuffed. Mr. Cocks informs me that in 1877 it appeared to have been stuffed several years; the horns are of the long-horn type, showing the animal had Gisburne blood, and can hardly have been killed before 1863. (The Gisburne cow and calf came to Lyme in 1859.) The hair is rather curly on the poll, the muzzle black, and the ears white, inside and out. Mrs. Legh told me that the head at Hall Barns belonged to an animal (from the length of horn and comparative fineness of face, I think, a bullock), which was shot at Christmas, about forty-three years ago. The hair on the poll is curly, the ears chocolate-red inside, and for about a third of their length from the apex outside. One or two of the eyelashes, which time and ungentle usage have left, are red, and there are a few red hairs above the black muzzle, but they are scarcely comparable with the well-pronounced red line above the muzzle in the Chillingham breed. The horns, which are yellow tipped with black, decline outwards and forwards, and then slightly inwards. This head and the old skull are undoubtedly our best existing guides to the original character of the ancient Wild White Cattle of Lyme.

MEASUREMENTS (IN INCHES) OF STUFFED HEADS.

	Length of horn round outer curve.	Length of horn in a straight line.	Span of horns.	Across forehead between horns.	Length of head.	Circumference of horn at base.
Head at Lyme . .	25	13	9.5	10	21	—
„ Hale Barns	27	18.5	29.5	11	22.5	9.5

The measurements of the head at Lyme are those given by Mr. Cocks (Zool. 1878, p. 284), who says the head is that of a bull. Mr. Pardey, however, informs me it is a cow's.

THE DISTRIBUTION IN THE BRITISH ISLANDS
OF THE SPOTTED CRAKE.

By O. V. APLIN. M.B.O.U.

SUPPLEMENTARY NOTES.

ON the appearance of my article on the Spotted Crake (Zool. 1890, pp. 401—417) I received from several correspondents some useful and interesting information upon the subject; and as I was desirous that my account of the distribution of this bird should be as complete as possible, I have decided to publish a further instalment of statistics. My request for additional information (Zool. 1890, p. 457) has brought me some valuable notes, and the Editor has handed me—for incorporation in this supplementary paper—three more which had been forwarded to him.

In the "Conclusion" (ii.) of my former paper (p. 413) the parenthesis "(except in one instance)" should be inserted after the word "breeding."

NOTTINGHAMSHIRE.—Mr. F. B. Whitlock, of Beeston, near Nottingham, writes me word that all the Spotted Crakes he has met with or heard of in that district "have occurred in September and October." In a subsequent letter, of 25th Nov., he writes:—"This morning my dog put one up almost at my feet: this is my latest date for this district. I clearly identified it as it swam across a drain."

CHESHIRE.—Mr. E. Coomber records a specimen picked up under the telegraph-wires, close to Neston, on the 26th August, 1890 (Zool. 1890, p. 390).

LEICESTERSHIRE.—Mr. F. B. Whitlock writes:—"Would probably breed every year were it not for the spring floods. Later broods may get off, which may account for young birds being met with late in October. I killed one on the 25th, this year, near Barrow-on-Soar."

NORTHAMPTONSHIRE.—I am indebted to Lord Lilford for the following note:—"Of late years I have come to regard this species as a not very abundant, but pretty regular, autumnal visitor to this immediate neighbourhood [Lilford]; but I have

not heard of even one this year (1890). This is no doubt owing to the extraordinary dryness of our meadows since the middle of August. I have only hitherto heard of one Water Rail; but this species, I feel sure, breeds with us, and does not regularly leave the country, as the Spotted Crake, *as a rule*, does."

LINCOLNSHIRE.—Mr. G. H. Caton-Haigh has been good enough to send me an interesting account of his experience of this bird in the Lincolnshire marshes. "It is very local," he writes, "and by no means abundant as a breeding species. In the autumn, however, a considerable immigration takes place, and the species is then much more generally distributed. The arrival seems between the beginning of September and the middle of October, after which date they rapidly become scarce, and the latest bird I ever met with I shot on October 27th, 1888. The number appearing in autumn is very variable. Thus in 1889 I frequently flushed five or six in a swamp of less than three acres, while this year I have only seen two or three altogether. The migratory Water Rails come in just in time to fill the place of the Spotted Crake, though I have sometimes found the two together. I consider this bird the easiest of all the Rails to flush, and I can generally succeed in walking one up. I have never seen one caught by the dog, an accident which often happens to the Waterhen, Water Rail, and Corn Crake." The scarcity of the Spotted Crake during the past autumn, alluded to by Mr. Caton-Haigh, has been noticed also by Lord Lilford, who attributes it to the dryness of the meadows; and I may add that during the past season I did not see a single specimen at the bird-stuffer's.

HUNTINGDON.—The reference in my paper to Whittlesea Mere (1890, p. 404), was left in with the Norfolk records by mistake. Anent this record Prof. Newton has been good enough to point out that a false impression is conveyed by my statement. He writes:—"You have been misled by a wicked comma, in the passage from Stevenson's 'Birds of Norfolk' (ii. p. 394, note) that has crept in. The statement should run . . . 'the last nest he has heard of near Whittlesea Mere was in' . . . I had not before observed the intrusive comma, which so entirely alters the meaning of the sentence, and was probably stuck in at the last moment by the printer, for I am sure if Mr. Stevenson had noticed it he would have struck it out." He adds that the

Mere was drained in 1851-2. Those who possess the volume referred to will be glad to correct the foot-note by deleting the offending comma.

CAMBRIDGESHIRE. — Professor Newton adds, in regard to this county, "If I am not mistaken I have had, or seen, eggs from Cambridgeshire since 1849, though none, I should say, for thirty years, or perhaps more." Mr. G. J. Ground (11, Walpole Street, Chelsea) has favoured me with some valuable particulars respecting the Spotted Crake in the north of this county. He writes:—"From Whittlesea Wash, in Cambridgeshire, a tract of meadowy marsh land commencing near Peterborough and running east about fifteen miles, I obtained, in the autumn of 1873, four Spotted Rails: as far as I can remember, two were old birds, and two birds of the year. About ten years later, in 1883 or 1884, there was a late spring flood on the Washes, and, when walking on the South Bank one morning, I found the remains of two eggs of the Spotted Rail, which had evidently been carried there by a Crow and eaten. One was irretrievably wrecked; about two-thirds of the other remained. I mended it, and it is still in my possession. The eggs were both fresh, and had, no doubt, been exposed to view by the action of the water. They were most interesting to me, as proving, what I had always thought likely, that Rails nested in a strip of flag about seventy yards wide, extending for a mile or so by the side of the Cam. Cattle have the run of the sedge during summer, but that might not interfere with the nesting of Rails. It is probable that the Spotted Crake still nests in the locality I have spoken of. Almost every year I hear of some being killed. I obtained one in September, 1889—a young bird. I am hardly often enough in the district to say whether the species is increasing there, but my impression during the last few years has been that it is more often shot than formerly."

NORFOLK.—Prof. Newton writes:—"I have known, or perhaps I should say have heard of, plenty of nests since 1849; indeed I believe this species breeds there every year." The Rev. Maurice C. H. Bird, writing from Brunstead Rectory (Zool. 1890, p. 457), considers that in the Broad district the Spotted Crake is more common than the Land Rail, and more frequently breeds there. He mentions a brood of young hatched in his parish in 1889, which were unable to fly on the 29th August, and states, "The

latest and earliest dates I have for the occurrence of the Spotted Rail are as follows : Feb 24th, Potter Heigham ; Nov. 5th, 9th, and 19th, West Somerton and Brunstead." Mr. J. H. Gurney, however, writes me word, " Joshua Nudd has not seen a nest on Hickling Broad for many years, and never did find but one : this was nineteen years ago, and on June 28th, 1889, Joshua and I searched the place where he took it ; of course we did not find one, but we found an abnormally small Moorhen's egg."

SUFFOLK. — The Rev. Julian Tuck writes to me about this county as follows :— " In the interesting article contributed by you to this month's ' Zoologist,' on the Spotted Crake, you have not given any particulars about Suffolk. But what holds good for Norfolk is, I think, about the same for this adjoining county. My old friend Dr. Hele, in his ' Notes about Aldeburgh,' writes, ' These birds are met with only during the autumn. . . . I am not aware of the nest having been discovered in the locality, but have little doubt they do occasionally breed in the fen. . . . The fen is so large, and so well-covered a tract of boggy marsh, that the finding of a Spotted Crake, without the assistance of a good dog, must always be a matter of the merest accident.' Dr. Babington, in his ' Birds of Suffolk,' writes, ' The bird is principally seen in autumn, and its nest is now rarely found.' "

Mr. G. T. Rope (Blaxhall, Suffolk) forwarded to the Editor the following valuable note, which has been handed to me for incorporation in this supplementary article :—" In Mr. Aplin's interesting paper on the Spotted Crake, and its distribution in Great Britain, although its occurrence both in Norfolk and Essex is referred to, the intervening county of Suffolk is altogether left out in the cold. A reference to Dr. Babington's ' Birds of Suffolk ' will, however, show that this species frequents many parts of the county, where the nature of the ground is suited to its habits. It lingers here very late in the year, many examples having been obtained during November ; while in one instance, quoted by Dr. Babington, a Spotted Crake was shot as late as December. As to its breeding in Suffolk, the same writer, quoting Sheppard and Whitear's ' Catalogue of Norfolk and Suffolk Birds,' says, ' Eggs and young found in considerable numbers in the neighbourhood of Yarmouth ' (a statement which, in all probability, is intended to refer to both counties, Belton being afterwards given

as a locality).* 'Mr. T. M. Spalding has taken its eggs in the Blythburgh fen; Westleton, nests, rare (F. Spalding MS.).' My brother, Mr. A. M. Rope, and I had the good fortune to find a nest on May 28th, 1872, in a large bed of reeds (since drained) close to the Minsmere sluice, near Leiston. The old bird was on the nest at the time, but slipped off directly. She seemed to be at the point of hatching; the nest containing six chicks, one of which was dead, and three eggs. The young ones scrambled out, and squatted about singly round the nest. After watching unsuccessfully for some time near by, in the hope of again catching a glimpse of the old bird, we looked a second time into the nest, and found the chicks had all five climbed in again. They were covered with blackish down, except on the top of the head, which was bare. The colouring and markings of the beak were very beautiful—a combination of black, pearly white, and coral-red. The nest was like that of a Waterhen, and was well raised above the wet swampy ground by its own thickness. It was composed almost entirely of sedges, and admirably hidden, having been built under cover of a mass of dead sedges, &c., which rested lightly upon the growing herbage, having probably floated there during the winter floods. One of the eggs, with a coloured drawing of the dead chick, was sent to the Editor of 'The Field.' A Spotted Crake was killed in the same bed of reeds on Sept. 18th, 1873; another in October, 1878. Two were flushed there in November, 1879, one of which was shot; and another obtained Sept. 29th, 1881. Among the reeds, bulrushes, &c., which fringe the River Alde, between Snape and Langham bridges, this interesting little bird is not uncommon, though, from the nature of its habits, one does not often get a sight of it. I occasionally see one cross the river from one reed-bed to another. On the wing it is readily distinguishable from the Water Rail by its comparatively short beak. As far as I am aware, no instance has been recorded of its occurrence in Suffolk during January or February; the month of March being the earliest date cited by Dr. Babington: in fact, its habits as regards this particular

* This of course refers to many years ago, the Catalogue in two parts having been read before the Linnean Society in April, 1824, and in May, 1825, and published two years later in vol. xv. of the 'Transactions' of that Society.

county seem on the whole to confirm Mr. Aplin's apparent conclusion, *viz.*, that the Spotted Crake arrives very early in the spring, and departs as late in the autumn." The nest found by Mr. Rope near Leiston was recorded by him in 'The Zoologist' for 1878, p. 454.

KENT. — In reply to my request for information (Zool. 1890, p. 457), Mr. W. Oxenden Hammond, of St. Alban's Court, near Wingham, has been good enough to send me the following note: — "I can give none with reference to its breeding in this neighbourhood, although in the wet summer of 1860 (I think that was the year), I remember killing one in the flooded marshes at Stodmarsh, near Canterbury, in July, the marshes being full of Snipes. From the season, this bird had probably bred. I have killed several at different times in the marshes near Wingham. It is rather a curious coincidence that, having read your article on this bird in 'The Zoologist' in the evening, I went to shoot Snipes the next morning (Nov. 1st), and in the course of the day killed a Spotted Crake."

SOMERSET. — The Rev. Murray A. Mathew, in a long and very interesting letter, says of this county: — "I have long since come to regard it as one of our resident birds. At one time I used to shoot Snipe throughout the winter on the peat moors between Highbridge and Glastonbury. The Spotted Crake was one of the characteristic birds of that strange district, well-known to the gunners, who shot Snipe to sell them, by the name of "Jacky-mo." I never was on the ground without coming across several, and did not molest them, as I had discovered from experience that they were not worth anything for the spit. An old setter I had used to drop to his points, and once or twice I have seen the unconscious "Jacky-mo" pecking on the ground between his fore legs. In any of the winter months you would be sure to come across Spotted Crakes on this snipe-ground. I have often regretted that I have never done any bird-nesting in the peat-moor district, as not only nests of *Porzana maruetta* might be found, but those of rare aquatic warblers. The Shoveller, and perhaps the Garganey, would nest regularly if the gunners would only leave them alone. I possess an egg of the Shoveller taken on North Curry Moor some years ago. Broods of Spotted Crakes used to be common in the neighbourhood of Weston-super-Mare

in the beginning of August. A good setter I had used to point them, and I have watched them running in the herbage like rats, occasionally coming out from their shelter, with the utmost tameness, to squat in some tump of grass at my feet. I had no doubt these birds had been hatched close at hand."

DEVONSHIRE. — Of this county the Rev. Murray A. Mathew writes :—" We used frequently to flush Spotted Crakes in clover-fields when Partridge-shooting in September, and, at the time we rented the shooting on the Braunton Burrows, were wont to come across them when Snipe-shooting in the winter, during the months of December, January, and February. I have in my collection a very beautiful adult male Little Crake, which I saw my brother shoot on Braunton Burrows on February 4th, 1876. Like the Spotted Crake, this smaller bird is probably also a resident, in limited numbers, but, from the extreme difficulty in flushing it, it escapes detection. On the Braunton Burrows I have on several occasions seen small Crakes run into rat-holes for shelter, and at the time could not determine whether they were *maruetta* or *parva*." The bird shot as above stated, on February 4th, 1876, is included by Mr. Pidsley in his work on the 'Birds of Devonshire' (p. 121), as Baillon's Crake (*P. bailloni*) and was so recorded in 'The Zoologist' (1876, p. 4844); but Mr. Mathew informs me, by letter, that it is "a very perfect adult male Little Crake" (*P. parva*).

Mr. W. S. M. D'Urban (Moorlands, Exmouth) has forwarded to the Editor a note (handed to me for incorporation) as follows :—" I saw a specimen of this bird, recently mounted, in a bird-stuffer's shop-window, killed at the end of October, 1890, in the marshes behind the railway-station at Exmouth. Mr. R. P. Nicholls, of Kingsbridge, writes me word that he had two specimens sent to him last autumn from Wadebridge, Cornwall, in which county he thinks it is more numerous than in Devon. At Kingsbridge, according to Messrs. E. A. S. Elliot and R. P. Nicholls, this species is 'rather rare, but several have been shot in the district.' The late Rev. R. A. Julian says, in 'The Naturalist' (vol. i. p. 87), 'Very rare. Is occasionally seen in the months of September and October in Efford Marsh, where one specimen was obtained. The Rev. C. Bulteel also has a specimen in his collection, which he shot near Ermington.' It has occurred several times at Plymouth. One shot Nov. 10th,

1855, and others seen (Zool. p. 4946) ; and one Oct. 13th, 1873 (J. Gatcombe, Zool. s. s. p. 4253). In my youth it was common enough, on the estuary of the Exe, to be known to gunners as the 'Silver Rail.' I shot one myself, near Topsham, Sept. 17th, 1855 (Zool. p. 4895), and have seen others. Two occurred in Braunton Marshes, North Devon, in September, 1874, and it was thought to be numerous there (G. F. Mathew, Zool. s. s. p. 4253), It is an occasional visitor to Lundy Island. The specimen mentioned by Mr. E. Parfitt, in his "Birds of Devon," published in the 'Transactions of the Devonshire Association' (vol. viii.), and alluded to by Mr. O. V. Aplin in 'The Zoologist' (1890, p. 411), notwithstanding an apparent discrepancy in the date, is doubtless the one recorded by the late Mr. J. Gatcombe as having been found dead on the railway near Tavistock, in October, 1863 (Zool. p. 8832). It is sometimes obtained very late in the year, and, besides the specimen killed at Plymouth, Nov. 10th, 1855, a male was killed at Kingsbridge, Nov. 3rd, 1875 (Zool. s. s. p. 4763), and the Rev. M. A. Mathew saw one, Nov. 19th, 1873, on the north coast of Devon (Zool. s. s. p. 3826). It seems to be more plentiful in some years than in others. In Mr. W. E. H. Pidsley's recently published 'Birds of Devonshire,' p. 120, I find the Spotted Crake included as "an autumn and spring visitant, met with in sparing numbers between August and November. Dr. Elliot considers that it may be termed 'rare' in Devon."

WILTSHIRE.—"In the Albert Memorial Museum, at Exeter, is a specimen from Mr. Robert Cumming's collection, which was killed at Devizes, Wiltshire, June 4th, 1849" (Mr. W. S. M. D'Urban, in above note).

WARWICKSHIRE. — Mr. Coburn reports that "On the 19th Sept., 1874, one was shot by Mr. Only, at Marsden Green, Warwickshire;" and he remarks that these are the only fresh-killed specimens of *Porzana maruetta* which have passed directly into his hands during the past twenty years.

WORCESTERSHIRE.—The following note was received by the Editor from Mr. F. Coburn, Holloway Road, Birmingham:— 'In Mr. O. V. Aplin's interesting paper on the Spotted Crake, in 'The Zoologist' for November last, there is no mention of Worcestershire. On the 29th August, 1889, I received a specimen which had been caught alive at Bromsgrove, in that county. The

man who caught it said that there were others about which he expected to secure, but I heard nothing more from him."

PEMBROKESHIRE.—The Rev. Murray A. Mathew writes:—"I was much surprised, when shooting over very suitable ground, in this county, never to come across a Spotted Crake. It would appear to be a rare bird here. It has occurred once or twice to my friend Mr. Hugh Owen, in the neighbourhood of Fishguard; but in my eight or nine years of Snipe-shooting, over bog and moor, I never encountered a single example." Mr. Mathew adds:—"I have no doubt that, on the whole, the conclusions you have drawn at the end of your paper are correct; that *P. maruetta* is in some parts of England an early migrant, remaining until late in the autumn, and nesting in suitable localities; while in some few districts the birds are resident throughout the year, being, perhaps, more numerous during the summer, when migrating birds have joined them."

ABERDEEN.—The last-named correspondent adds:—"I have seen one shot in Aberdeenshire, near Aboyne, in the month of August. It was considered rare, and I was asked to skin it for the shooter."

ON THE GREAT GREY SHRIKE, *LANIUS EXCUBITOR*.

BY REV. H. A. MACPHERSON, M.A.

THE Grey Shrikes, as most readers of 'The Zoologist' are probably aware, are represented by several specific forms in the colder regions of the Old World, the largest being that described by Prejevalsky as *Lanius giganteus*; on the other hand, the species most widely distributed, so far as I can ascertain, is the well-known Pallas's Great Shrike, *L. major*, the range of which extends from Britain, across Europe and Asia, into China (Swinhoe, Proc. Zool. Soc. 1871, p. 375). It was this last named which for many years attracted the attention of English ornithologists as a doubtful form, possibly identical with the nearctic *L. borealis*, a well-known bird, until Mr. Seebohm announced that the single-barred birds found in Britain should be referred to *L. major*. Gould had at one time informed the late Mr. Gatcombe that the possession of a double white alar band was characteristic of the male only of *L. excubitor* (Pidsley, 'Birds of Devonshire,'

Introduction, p. xxi). It remained then for Prof. Collett, of Christiania, to show, as I think, conclusively ('Ibis,' 1886, pp. 30—40), that in North-western Europe, at any rate, the two forms, *L. excubitor* and *L. major*, are so nearly related that a hybrid race prevails. Apparently, when we cross the Urals, we only meet with the typical and thorough-bred single-barred bird known as *L. major*.

But the birds which visit Great Britain from Scandinavia and Western Russia are so much cross-bred that it is almost impossible to distinguish the immature and female specimens. It seems to me that we should accept this fact, and abandon the attempt to distinguish between the two forms, which, according to Prof. Collett, interbreed to so large an extent. Whatever decision may be arrived at by others, I propose, in the present paper, to treat the two species as one. This renders it possible to speak of the immigration into Britain of what may be simply designated *L. excubitor*.

I have carefully examined all the instances recorded in 'The Zoologist.' Excluding from consideration numerous cases in which writers have not taken the trouble to state the arrival of Shrikes with scientific precision, I find a balance in our favour of eighty-nine distinct occurrences between 1843 and 1882. Apportioning the numbers to the months, the following results are reached:—January, nine birds; February, eight; March, six; April, six; May, one; September, one; October, seventeen; November, twenty-six; December, fifteen. It would be supposed from this that the largest number arrive in November, and this is possibly the case. Yet we have it, on the authority of Mr. Cordeaux, that in 1876 no less than fourteen Grey Shrikes were identified at Spurn (twelve of the number having been shot) during October (Zool. 1877, p. 10).

Another fact brought out by these statistics is that this Shrike is very variable in regard to the numbers in which it annually visits us. Whilst a few individuals occur along favourite "fly-lines" every year, in some years their number is increased tenfold. Those which winter with us for the most part lead lives of solitude, frequenting a particular beat of country for a week or two at a time, during which the familiar outline of the Butcher-bird may at any time be detected upon the top of some naked tree; scouring the hedgerows for field mice, shrews, and

small birds, until failure of supplies or desire of change impels each individual Shrike to seek some fresh hunting-ground. The flight may be very high, or very low, but is always undulating. With the arrival of spring the Grey Shrike moves eastward to the coast, from which it takes its departure in March or April, a few stragglers wintering here until May, or even electing to pass the summer with us.

The stories that are told of flocks of Shrikes being seen inland appear to me to be unworthy of credit. One such is alluded to in the 'Birds of Herefordshire' (p. 39). The birds are chiefly solitary, as their manner of life, indeed, almost necessitates. Like Hawks, they associate in flocks to meet the exigencies of travelling long distances; but that at other times they live gregariously I do not believe, though of course old and young remain together at first, after the latter are fledged. There is the statement of a Mr. George Goddard to the late Dr. Lamb, of Newbury, that six Grey Shrikes were seen together on August 5th, 1810, near Newbury (Zool. 1880, p. 315). This I can well believe. It is also possible that some of these birds had been reared in Britain. One reason why this Shrike has never been proved to breed in England may well be that very few Englishmen know where to look for the nest; but I should be more disposed to think that the Newbury birds had migrated from abroad. In 1886, Great Grey Shrikes visited the island of Heligoland on the 14th, 15th, and 16th of August. Early-hatched birds would be able to fly strongly by the middle of June, and the distance from Holland, where this Shrike is not rare, to Berkshire presents no insurmountable objection to the hypothesis that the birds came from abroad as a family party.

Of the habits of this Shrike the most accurate account given by early writers that I have seen is that of Turner, who became well acquainted with the species in Germany.* I, too, have studied this Shrike, as well as limited opportunities rendered possible, in Germany, spending day after day in the observation of its light and graceful movements, principally on the right side of the Rhine near Mulheim. Out in the open plain, where few trees, except poplars, stud the roadsides, not a Shrike was to be

* 'Avium precipuarum quarum apud Plinium et Aristotelem mentio est, Historia.' 1544.

found, unless a stray pair of the Red-backed species, *L. collurio*, chanced to nest in a lowlier bush than is usually chosen by this bird. The scarcer Woodchat, *L. pomeranus*,—a local, indeed in my experience a rare bird,—prefers to nest in the orchards. The Great Grey Shrike selects the forest, not venturing into tangled coverts or dense jungle, it is true, but choosing for a nesting-place some big tree standing on the edge of the forest. Naturally there is no hard and fast rule as to the position of nests. In Holland Mr. Seebohm obtained a nest of this Shrike from the top of a Scotch fir.* On the Tana river, Mr. A. C. Chapman took another nest from a birch tree, about ten feet from the ground.† In Central Europe I found that big oaks were the favourite trees, though I have seen the nest of a Grey Shrike built in quite a small tree—an exceptional case. In the district I investigated the nest was usually placed at the apex of a forked bough, a long way out from the main trunk, built *on*, not *in*, the fork, at a probable elevation of thirty-five or forty feet.

The nest itself is a bulky structure, composed of fine twigs interlaced with a few stout straws, bents, and fibres. Within, it is quilted with a profusion of soft substances, feathers of the pheasant and buzzard, a little of the white fur from the belly of a hare, a little of the shed coat of the roe-deer, sheep's-wool, or any convenient substitute.

The young are carefully tended by their parents, and live together for a few weeks after leaving the nest, the old birds foraging for their brood long after the latter are able to fly.

I have never been fortunate enough to hear this Shrike sing, but the observations of Mr. Kerry have placed the fact upon a basis of truth (Zool. 1880, p. 70). The only sounds that I have heard were the loud and angry notes of birds which detected and denounced my presence, and the shrill cries of the young.

Some years ago I described the deft and handy fashion in which a Grey Shrike in my aviary decapitated its victims; bolting the head first as a *bonne bouche*, it proceeded to suspend the carcase of its prey in such a way as best forwarded the flaying of the body. I lately came across an old American note, reproduced in the 'Annual Register' of 1801: afterwards I found that Dr. Elliott Coues had also noticed it; therefore I need only

* 'British Birds,' i, p. 601.

† 'Rambles in Lapland,' p. 170.

remark that one John Heckewelder was much exercised to know why an American Grey Shrike impaled its prey. He came to the conclusion that the object of its impaling grasshoppers was to bait the twigs for smaller insectivorous birds, on which the Shrike himself might subsist in turn.

But it must not be supposed that Shrikes always impale their prey. As I have mentioned, in Pidsley's 'Birds of Devon,' I once watched a family party of *L. collurio* glutting themselves with caterpillars, which they picked off the nettles at the roadside near Brixham and swallowed whole. In the same way precisely, I have watched wild Grey Shrikes picking beetles to pieces, holding the insect between the toes of one foot, while resting on the tarsus of the other foot.

Should anyone wish to really understand the habits of this handsome Shrike, he must be content to spend plenty of time in the observation, for it is naturally suspicious, and generally on the alert; at least in those districts in which it has found, by sad experience, that every man's hand is against it.

NOTES AND QUERIES.

MAMMALIA.

Hybernation of Squirrels. — I am pleased to see that Mr. A. Lister (p. 61) has raised this interesting question. Bell states that the Squirrel "remains during the great part of the winter in a state of *almost complete torpidity*, coming abroad, however, on the occurrence of a fine day." This, I think, states the real case fairly, and certainly does not imply "hybernation," which I take to mean lying up in a *completely torpid condition* during the winter months. I have seen Squirrels abroad on fine days in, I think I may say, every one of the winter months; and while Pheasant-shooting near here on a sunny day, the 6th January last, which was about the middle of the most severe frost we have had for many years, with several inches of snow on the ground, I saw a Squirrel jumping from tree to tree, before the beaters, in the most lively condition. As to a case of total hybernation I am afraid I cannot supply Mr. Lister with one, as all my observations and enquiries would tend to show that the Squirrel only *partially* hybernates during the coldest dull weather. — JOHN R. B. MASEFIELD (Rosehill, Cheadle, Stafford).

I am glad your correspondent, Mr. Lister, has drawn attention to this subject (p. 61), for the information and evidence in support of

the theory that Squirrels become torpid during the winter-time appears to be very meagre. In Bell's 'British Quadrupeds' (2nd edit. p. 277) it is stated that the Squirrel "remains during the greater part of the winter in a state of almost complete torpidity, coming abroad, however, on the occurrence of a fine day." My own experience is that the Squirrel does not by any means restrict his winter wanderings to fine days. I have frequently seen Squirrels abroad in the middle of the winter, when there has been deep snow on the ground and a keen frost in the air. I remember once seeing a Squirrel abroad during a severe storm of sleet and rain in winter-time, and he appeared to be not at all inconvenienced by the rough weather. I may mention that I saw a Squirrel abroad on Dec. 17th, 1890; and it will be remembered what a cold spell of weather we were having at that time. At p. 278 Bell says, "The female brings forth three or four young in the month of June." I would refer your readers to 'The Field' for March 6th, 1886, where a correspondent records finding young Squirrels, "nearly as large as a rat," in the second week of February, "in a peculiarly inclement and backward season." We may assume those Squirrels were born some time in January. In this neighbourhood I have three times come across nests of young Squirrels, on each occasion at the beginning of April; they appeared to be several weeks old, and must have been born at least as early in the year as the month of March. It appears to me very strange that an animal that "remains during the greater part of the winter in a state of almost complete torpidity" should produce young in January, February, or March. The position of the new-born young when their mother hibernates must be a very unenviable one! Perhaps somebody will tell us that the difficulty is got over by the young ones hibernating too! My own idea is that the Squirrel probably does sleep a good deal more in winter-time than in summer, as do many other wild animals, but that he has to be continually waking up and taking nourishment: thus it is that we find him abroad during severe weather, as well as "on a fine day." Compared with the lethargic condition in which Bats and Dormice, for instance, spend the winter, this can hardly be called an "almost complete state of torpidity." It would be interesting to learn the evidence of somebody who has actually found a Squirrel in a torpid state.—E. W. H. BLAQUE (Cheadle, Staffordshire).

[Our own experience is opposed to the testimony of Bell, both as regards the alleged torpidity in winter and the time of producing the young. When covert-shooting during the winter months we have repeatedly seen Squirrels abroad and active, sometimes searching on the ground for food, at others passing from tree to tree at a great pace in front of the beaters. As regards the question of reproduction, we have notes of finding newly-born Squirrels on the 21st March (three young), 9th April (three young), 26th April (four young), and 29th April (two young). Those

found at the end of March and beginning of April were naked and blind ; those taken at the end of April were about three parts grown. The old Squirrels, in case of danger, remove the young from the nest, or "drey" to some hole in a tree, whither they carry them one by one in the mouth, just like a cat carries her kitten. One of the prettiest sights in the world is to see an old Squirrel teaching a young one to jump. Of this we may give some account later, in a paper on the Squirrel which is in preparation.—ED.]

Wolves in France.—During the year 1890 it appears that 515 Wolves were killed in France, at a cost to the Government of £1430. This is slightly in excess of the number destroyed during 1889. The rewards paid for the destruction of these animals varies from 30s. for a young Wolf to £4 for an old one which has attacked and killed any person.

BIRDS.

The Great Frost in the S.W.—In East Somerset the departure of all the Redwings, Fieldfares, and Peewits, at the end of November, and the large flocks of Sky Larks which early in December were seen passing in a continuous stream towards the south-west, indicated that the frost would be both severe and protracted ; and so it proved. Deep snow covered the ground for six weeks, and the frost—with a break of a day or so—lasted for full two months. It is not to be wondered at that there was a great destruction of bird-life. Among other birds we lost nearly all our Owls, to our great regret. I myself saw four White Owls lying frozen upon the snow, and heard of others, and of some Brown Owls also having been picked up dead. Several poor Owls are said to have flown into houses in search of shelter. A great many of our Partridges succumbed. Rooks were found lying beneath the trees, having dropped frozen from their perches. Small birds of many kinds lay dead on the ground beneath the hedges. Many Bitterns have been shot. I have heard of eleven ; two of them close to the town of Frome at the beginning of the frost, one of them turning up at such an unlikely spot as the town sewage-works. From North Devon, Swans, White-fronted Geese, Canada Geese, Smews, one Eider, besides a multitude of commoner wildfowl, are reported. The Canada Geese had, of course, escaped ; and the Swans were frozen-out tame birds, though one is said to be a Whooper. Although Pembrokeshire escaped the snow, the frost there was severe, and several flocks of Swans were noted—some of fifty and more. These were probably all *Cygnus Bewickii*, the commonest of the Swans visiting Ireland in the winter, and not unseldom seen in the S.W. of England and Wales. One shot at St. David's, and sent in to Haverfordwest, proved to be a young Bewick's Swan. An Eider was obtained at Milford Haven. The coverts throughout Pembrokeshire were full of Woodcocks. In some small woods of only twenty-five acres, in the north of the county, forty were found by me one morning in mid-

December. In North Devon Woodcocks were also plentiful. One market-day upwards of a hundred were offered for sale at Barnstaple, brought in by the farmers' wives. In this district most of the hedgehogs have perished; I have found their remains in nearly every field.—MURRAY A. MATHEW (Buckland Dinham, Frome).

Lines of Migration.—In his interesting "Notes on the Ornithology of Northamptonshire" (p. 52) Lord Lilford says, "I am of opinion that the valley of the Nene, from the Wash as far as Thrapston, is certainly a much-used line of migration; but I believe that the majority of our autumnal migrants leave the valley somewhere above that town, and strike across the country for the eastern affluents of the Severn." There can, I think, be no doubt that Lord Lilford is perfectly correct in this opinion, founded as it is on long and careful observation, and in corroboration I quote the following extract taken from the Migration Report (1886), East Coast of England:—"The returns from the north of Norfolk are poor, but there are indications in the heavy returns annually sent from the Llynwells, Dudgeon, Leman and Ower, and Happisburgh light-vessels, that a closely-focussed stream pours along the coast from east to west, to pass inland by the estuary of the Wash and the river systems of the Nene and Welland into the centre of England, thence probably following the line of the Avon, the north coast of the Severn and Bristol Channel, and eventually striking across the Irish Sea to enter Ireland by the Tuskar Rock off the Wexford coast. This route is undoubtedly the great and main thoroughfare for birds in transit across England to Ireland in the autumn."—JOHN CORDEAUX (Great Cotes, Ulceby).

The Recent Visitation of Bustards.—The visits of the Great Bustard, *Otis tarda*, to England are now-a-days so few and far between, the species having long since ceased to reside and breed in this country, that any facts concerning its appearance deserve to be placed on record. The Bustard, like the Bittern, has now come to be regarded as a winter visitor, though why, it is not easy to explain; for one would rather expect that, like other species which were formerly more abundant in the breeding-season (the Dotterel and the Stone Curlew, or Thick-knee, for example), they would make some attempt to revisit their old nesting-haunts in the spring of the year, especially since they are not, as are many wild-fowl, natives of more northern countries, driven southwards by snow and ice with the advent of winter. The fact, however, remains, that both Bustards and Bitterns are now to be looked for during the winter months, though with this difference,—that while the latter may be regarded as annual visitors, in some years more numerous than in others, with the former the case is far different. I have notes of more than fifty Bitterns shot, alas! in different parts of the country during the present

winter. The recent visitation of Bustards was heralded in 'The Field' of the 20th December last, by an announcement from Mr. William Sewell, of Tillingham Hall, Essex, that a Great Bustard had been shot on Dec. 9th, by the bailiff to Mr. Robert Page, on Bridgewick Farm, Dengie, Southminster, and had been forwarded for preservation to Mr. Ashmead, of Bishopsgate Street. It proved to be a hen bird, weighing 8 lbs. 5 oz., and was in good condition. (2.) "During Christmas week," as I am informed by Dr. John Lowe, a Great Bustard was shot at Llanrhwdw, near Llanelly, in Carmarthenshire, and was taken to Mr. Hugh Nevill, of Llanelly, for identification. He reported it to be a female bird, weighing between 8 and 9 lbs., and in very fair condition. It was forwarded for preservation to a birdstuffer at Carmarthen. Mr. Nevill writes that it was found close to a river, where he believes he saw it himself one evening about a fortnight previously, when returning home in the dusk; but the light failing, he was unable to make certain of the species, which attracted his attention by its conspicuous size. (3.) On January 2nd Mr. J. Bourne, of Ampfield House, Romsey, Hants, was out Partridge-shooting, and, on taking up his position for a Partridge "drive," on the edge of a kohl-rabi field, was surprised to see what appeared to be a Wild Goose rise from the centre of the field, and fly in the opposite direction very slowly. About half an hour later the same bird came over his head about twenty yards high, affording an easy shot, and was bagged. He found it to be a hen Bustard, which was subsequently ascertained to weigh 10 lbs., and measured 5 feet from tip to tip of wing. He announced these facts in 'The Field' of Jan. 10th last. (4.) We next hear from several correspondents of a Great Bustard in Sussex, variously reported to have been shot in the marshes "near Rye," "near Winchelsea," and at "Westfield" ('Field,' Jan. 24, 1891). It appears on further enquiry that the actual locality was Pett Level, between Winchelsea and Fairlight ('Field,' Feb. 7, 1891). It was shot on Jan. 6th by Charles Cooke, who sold it to Mr. E. Vidler, of Havelock Road, Hastings, and this also proved to be a female bird, weighing 7 lbs. 10 oz. It was in plump condition, the crop containing dry grass. (5.) In 'The Field' of Jan. 24th, Mr. H. H. B. Law, of Burgh Hall, Melton Constable, Norfolk, reported that a *Little* Bustard was caught in a field at Stiffkey; but in the following issue of that journal (Jan. 31st) several correspondents—viz. Mr. Southwell of Norwich, Col. Feilden, Mr. T. J. Mann, and Mr. Law himself—wrote to correct this statement, and gave further particulars. From their letters it appears that on Jan. 19th a female *Great* Bustard was picked up dead in the "drift" or roadway leading from Stiffkey windmill to the marshes. It had been shot at by a Stiffkey man, whose dog afterwards found it, and it was then purchased by Mr. S. J. Bell, of Stiffkey, who presented it to Mr. T. J. Mann, of Hyde Hall, Sawbridgeworth. By the time it reached its destination, however, it had been too long dead for pre-

servation, and, decomposition having set in, Mr. Mann was only able to save the wings and sternum. It then weighed from 8 to $8\frac{1}{2}$ lbs., the wing measurement being 59 inches. (6.) On Feb. 4th, as I am informed by the Rev. A. C. Smith, of Old Park, Devizes, a Bustard was shot near Chippenham, Wilts, by a Mr. Wood, and was sent by him for preservation to Foot the birdstuffer, at Bath. It measured 5 feet from tip to tip of wing, and weighed 9 lbs. (7.) The latest Bustard of which I have received any information was killed in Mildenhall Fen, Suffolk, on the 5th February last. The fenman who shot it had no idea what it was, and disposed of it to Mr. Howlett, the birdstuffer of Newmarket, who, in a letter to 'The Standard' of Feb. 7th, announced the occurrence, and stated that the bird was a female, weighing about 18 lbs. On the 9th Feb., the Rev. Julian G. Tuck, of Tostock Rectory, Bury St. Edmund's, having just seen it, wrote to inform me of the fact, confirming the statement that it was a hen bird, although from the unusual weight (nearly twice that of any of the other female Bustards recently obtained) I had surmised that it was perhaps a young male without the well-developed vibrissæ which characterise the adult cock bird, and might consequently have been mistaken for a female. Mr. Howlett subsequently informed me, in reply to my enquiry, that the weight was 13 lbs., and had been misprinted 18 lbs. We thus have notice of seven Bustards procured between Dec. 9th and Feb. 5th, and it is remarkable that every one of them has proved to be of the female sex. Is this to be attributed to the greater wariness of the male birds which (if any have visited us) have contrived to keep out of harm's way? or are we to infer that the sexes separate in winter (as is the case with some other species), and that a small herd of hen Bustards has come over here, become scattered, and by this time probably annihilated? The last immigration of Great Bustards took place in the winter of 1879-80, and the occurrence of eight or nine of these fine birds, of which only one was a male, will be found to have been recorded in the latter year in the pages of this journal. But although no specimens have been procured since that date, one is reported to have been seen in Dorsetshire in May, 1888. In the 'Proceedings of the Dorset Nat. Hist. and Antiquarian Field Club,' vol. xi. (1890), it is stated (p. xviii) that "a keeper in the employ of Sir Richard Glyn first saw the bird on May 17th, 1888; it could run (he said) at a fast rate, but did not seem to fly with ease. The last time he saw it was on Compton Down; it then flew on to Melbury Down, beyond Whitworth's Bushes. It did not fly high, nor more than a mile from where it rose. The observer never approached nearer than 150 yards." The President (Mr. J. C. Mansel-Pleydell) added that this description coincided with Chafin's account of the flight of Bustards which he witnessed on the Downs near Woodgates Hill, near Salisbury, 100 years ago. The reference is obviously to Chafin's 'History of Cranbourne Chase' (1818, pp. 90, 91).

If no mistake was made in regard to the species, the middle of May is now-a-days a remarkable date at which to meet with a Bustard in England. It is to be hoped that, should any more of these fine birds be still roaming about the country, they may be allowed to go unharmed. It should be remembered that the Bustard is a game bird, still protected by existing game laws (1 & 2 Will. IV. cap. 32) between the 1st March and the 1st September; and any person killing one between those dates renders himself liable to prosecution and fine, besides having to pay costs.—J. E. HARTING.

Blackcap in Wiltshire in Mid-winter.—By the same post which brought my copy of the February No. of 'The Zoologist,' containing an account of the remarkable appearance of the Blackcap on several occasions during the late inclement weather, came a small box wherein lay a dead Blackcap, a male in good plumage, which was forwarded to me for identification,—it having found its way, on February 1st, into a bedroom at the Rectory, Clyffe Pypard, in this county, and there breathed its last. How the poor bird survived during the extraordinarily severe weather we have lately experienced, whence it came, and what drove it to undertake so fatal a journey, we cannot tell. Perhaps, as unprecedented cold and snow have appeared this winter in Algeria, the astonished bird may have intended to move farther south, but, mistaking its course, reached the downs of Wiltshire, the temperature of which during the last two months has been somewhat different from that of the Sahara. But be that as it may, its occurrence here in mid-winter seems worth noting.—ALFRED CHARLES SMITH (Old Park, Devizes).

Great Flight of Small Birds to the Westward.—*Apropos* of this subject, on which some interesting details are given pp. 63—66, the following notes were written down from the narration of Mr. W. W. Lloyd, and approved by him:—"At Castle Townsend, on the south coast of Co. Cork, there was a heavy snowstorm, accompanied by a strong easterly wind, all day, on Dec. 31st, 1890. The snowstorm was sufficiently heavy to prevent two American liners from putting into Queenstown. They had to make for Liverpool direct. During the whole of that day a continuous stream of birds—chiefly Starlings, with Fieldfares, Finches, and other small birds—kept passing westwards across the harbour, and surging up over the hill at Castletownsend amidst the blinding snow. Mr. Lloyd saw a Snipe or two among them. Whenever the snow cleared a little he saw packs of Lapwings at a much greater height, all passing westwards, but sometimes turning and facing the storm, and then, as it were, swept away by it again. The same day he went up the harbour, when he observed a number of Stonechats (probably driven in from the open country to the east) in a half-famished state. He caught one which perched on his boat,

and then, on being liberated, went into a nook of a fence, where it immediately put its head under its wing and roosted. "During frost at the end of November he saw a Swallow." In this part of Co. Waterford where I live, no snow has lain on the ground all through this winter. We have had fieldfares here, sometimes in flocks of forty, since Nov. 7th. Some writers say none appear here except on the exposed uplands. I have never seen so many except in severe frost and snow. Blackbirds and Redwings, too, have been unusually plentiful this winter. Every evening they come from far and near into the evergreen plantations about my lakes, where, crowded in company with Starlings, they keep up a tremendous noise and stir. There seems to have been an immigration of Bramblings this winter into the South of Ireland. My servant, who caught some in January and February, 1888, reports that they roosted with Chaffinches every evening near his lodge. I received a Brambling from Dr. Donovan, shot by him near Bandon on January 6th; and another from Mr. John Norman, a gardener near Thrles, taken by him about the same time. In 1887-8 we were visited by Bramblings, but they are not common in the South of Ireland. —R. J. USSHER (Cappagh, Co. Waterford).

The account given in 'The Zoologist' for February (pp. 63—66) of the "Great Flight of Small Birds to the Westward" is so interesting that perhaps I may be allowed to answer the Rev. E. C. Spicer's question as to "where the birds went." The frost in the Co. Wexford (or at least in this part of it) was not nearly so severe or protracted as it was in England. Thus, though we had frost and snow on Nov. 26th and following days, the cold was succeeded on the 30th by extremely mild weather, which lasted until Dec. 5th. The next very severe frost (on Dec. 21st) was followed by rain on the 25th; after which the frost and snow returned on the 28th, lasted till the 31st, and was followed by fine dry weather until Jan. 16th, from which date up to this time (Feb. 14th) the weather has been for the most part warm and spring-like. Thus it will be seen that we have not had a week's continuous hard frost. It might therefore be reasonably expected that the flocks of birds seen at Brighton, Lyme Regis, and in Devonshire, were making for the south-east of Ireland; and this is borne out by the facts. Sky Larks were numerous about the Hook Lighthouse "at the end of December and beginning of January," as I learn from the lightkeeper, Mr. D. Hawkins. On Dec. 12th, Linnets and Sky Larks were noted "about the light" all night, and one of each was killed, the wind being S.E. On Dec. 15th, Thrushes and Blackbirds were "about the light" all night (wind N.N.W.), and one Song Thrush was killed. At Fethard (also on the coast) flocks of birds were noted by a correspondent, passing, for the most part, westward or southward, at intervals, throughout December. These were chiefly Wild Geese, "Mountain Thrushes" (*i. e.*, Redwings and Fieldfares), Lapwings, and Golden Plover. The principal migration seems to have taken place

on Dec. 30th, when my correspondent "saw some hundreds of flocks of Green Plover and Golden, all flying from north to south; they did not alight. Two flocks of Geese or Swans going the same way. Wind E.N.E.; sleet." On Dec. 31st the wind was S.E., and there was a thaw, and all the birds were noted as "all going back north." I was in England until Dec. 25th, and on my return to Kilmanock I found Redwings and Fieldfares extremely numerous, but most of them left with the cold weather about the middle of January. I have no reports from other light-stations on the coast, but if procurable they will probably be found to confirm these observations. — G. E. H. BARRETT-HAMILTON (Kilmanock, New Ross, Co. Wexford).

Notes from Wales.—Whilst on a fortnight's visit to the west coast of North Wales, in the beginning of July last, and on several occasions in previous summers, I found certain birds common, which, although land birds, are rather rare in the inland but not far distant county of Brecon. Among these are the Red-backed Shrike, Corn Bunting (*Emberiza miliaria*), and Nightjar. Possibly a supply of food which does not exist in the adjacent inland districts is found near the sea, and is an attraction to these birds. The Red-backed Shrike is common along this coast, frequenting the bramble thickets and hedgerows. The Corn Bunting is abundant in the cultivated belt between the sea and the hills, especially about Towyn, and attracts attention by its rather harsh song, delivered generally from the top of a stone wall. The Nightjar is common near the sea, about the rocky, wooded hill-sides, where I could always hear its note in the evening. I have several times seen this bird at dusk hawking over the sand-hills near the sea about Barmouth. On the Merioneth coast the commonest bird seems to be the Stonechat; the Kestrel is very common about the cliffs, and I have now and then seen the Buzzard about the mountains above Barmouth. I saw, in the collection of a naturalist living at Barmouth, eggs of the Peregrine Falcon, Chough, and Manx Shearwater, all taken from a certain cliff on this coast; also local eggs of the Buzzard and Golden Plover. On July 17th I made the ascent of the "Bird Rock," near Towyn, the well-known breeding-place of the Cormorant and other cliff-nesting birds. With the aid of an aneroid, I made the highest point of this picturesque crag to be about 650 ft. It certainly does not look so high, but the mountains by which it is surrounded no doubt detract from its apparent height. The perpendicular part of the rock on the north side, where the Cormorants nest, is probably about 500 ft. high. The ascent from the west side is easy; I went up by this route, which winds up a rocky slope. The commonest birds here were Stonechats and Wheatears, and I saw a few Ring Ouzels about the rocky hollows, and a few Kestrels were screaming overhead. I saw no Peregrines, but it is commonly stated that a pair nest yearly on the cliff. About a dozen Cormorants were flying about the face of the precipice, the whitish

under-parts of the young birds being conspicuous. In Breconshire the Raven still holds its own as a resident. I had the pleasure of seeing three occupied nests of this bird last spring. On March 28th a nest on Talsarn Mountain contained four young birds about a week old. This nest is built on a ledge of a cliff, and is rather inaccessible; according to the statement of a shepherd living at the foot of the mountain, the young birds have been allowed to leave the nest unmolested for the last ten or twelve years at least. On April 1st a nest on the Brecon Beacons, built on an ash tree growing out of the face of a precipice, contained two young birds a few days old, which I believe were safely reared. This nest is not easy of access, but can be well seen from a tree a few yards higher up, and nearly over it; from this spot I was able to make a rough sketch of the nest and its contents. The Raven must be a wonderfully hardy bird; on March 4th, at Brecon, we had fifteen degrees of frost, the lowest temperature of the winter, and the weather was so severe that skating was going on, yet these two birds must have been then sitting, and hatched most, at any rate, of their eggs. Another Raven's nest was placed at the top of a Scotch fir, about 70 ft. from the ground, in a cultivated part of the county. I have seen an egg which was taken from this nest about the 1st of April; it is a fine light blue specimen. Is it not very unusual at the present time for the Raven to build in such a situation? The Buzzard nests rather commonly in the wild districts in the west of this county. On April 26th I found one of their nests on a slope of a hill called Mynydd Eppynt, placed in a fork of a larch tree some forty feet from the ground. We found the bird sitting on two nearly fresh eggs, one of which I have in my collection; it is a handsome specimen, the blotches having a lilac tinge. The nest was flattish, in shape like a Sparrowhawk's, but of course much larger: it was made of larch-twigs, and lined with dry and green bracken and green spruce-twigs. Another pair was evidently nesting in an adjoining wood. On April 28th I found a Buzzard's nest in an oak-wood about three miles from Brecon; it was placed in a very stout oak, the lower twenty feet of which were branchless, forming a difficult climb, but by ascending another tree I could see an egg in the nest, and perhaps there were others also. In this case I could see the bird on the nest, which it did not leave till I was at the foot of the tree. Last summer the Grasshopper Warbler visited a fresh, and, for this district, an unusual locality,—namely, a dry hedgerow close to this town. Here its note was heard for several days in May. Its usual haunts here are swampy, rushy alder covers: the three nests I have found here were all in places of this kind. The Cirl Bunting visited this neighbourhood in some numbers last summer. Including the specimen I obtained on June 4th, I was able to make out five male birds in song, and no doubt there were others about the country. This bird retains its song much longer than most birds; one, in particular, frequenting some tall whitethorn-bushes near the river Usk, was

to be heard singing during the greater part of August. I last heard it on the 24th of that month. — E. A. SWAINSON (Woodlands, Brecon).

Ornithological Notes from Devon.—The frost set in here on the 26th Nov. 1890, and immediately Brent Geese and various kinds of Ducks made their appearance on the Exe Estuary. Between the 26th and 28th the temperature was very low, falling to 12° in Exeter, and the wind was very cold from the N.E. We had little snow here, but the Haddon Hills were covered with it. Great numbers of Sanderlings and Dunlins (very grey in plumage, with unusually long bills), some Coots, Brent Geese, Wigeon (young males), and Goosanders were on the river, and large flocks of Ring Doves, Lapwings, and Gulls (Common and Black-headed) on the surrounding fields at the beginning of December. I saw numbers of Bramblings near Topsham on the 8th; and a Purple Sandpiper, Sheldrake, and two Slavonian Grebes were brought to a birdstuffer in the town. On the 14th I observed a large flock of Godwits flying over Budleigh Salterton, a rather unusual sight at this time of the year. On the 18th a fine male Pintail Duck in full plumage, a Bittern, and an adult Gannet were brought to the birdstuffer, who had also a Reeve and a Redshank, lately shot. On this day (18th) snow fell at Honiton, and it was very stormy here in the evening, with heavy rain from the S.W., and on the 20th the wind blew from N.E., four inches of snow falling in the evening, and by next morning it lay to the depth of eight or nine inches. The first thing I saw on waking, soon after daylight, was a continuous stream of birds arriving from the east—Redwings, Fieldfares, Starlings, Larks, and Lapwings—and they continued passing away to the westward for hours. Later in the day I saw a few Cirl Buntings feeding with very small-sized Larks in my field; and near the sea there were numbers of Linnets, very tame and so weak that they could hardly fly, so that they fell easy victims to some men and boys that were knocking them down with branches. Some that I approached within a few feet were picking up grass-seeds. On the 21st I think I saw three Green Sandpipers on the beach. The snow cleared off in a few days; but on the 24th the Fieldfares began to succumb, and the Song Thrushes, which were in great numbers in the fields,—being more numerous than I ever before saw them,—were also in a bad way. I have since found many of them dead, as also Missel Thrushes (which usually survive all the other Thrushes), Blackbirds (males only), Redwings, and Larks. The Starlings have not suffered so much as in 1888, when thousands died. The Rooks were hard pressed for food, and I saw one pegging away at a dead Thrush which was frozen hard: it returned to its "cold collation" at intervals for several days until the whole of the fleshy parts of the Thrush had been eaten. A flock of Larks has fed continuously ever since the snow cleared off on my lawn, and are at work without cessation from daylight to dusk pecking at the grass, which they have quite denuded in some spots. On

the 29th I saw great numbers of Thrushes, Fieldfares, and Redwings feeding on some holly trees in one of the suburbs of Exeter. The end of the year was intensely cold, with bitter east winds. In the first week of January, the weather becoming a little milder, Lapwings were flying back to the eastward. More Sheldrakes occurred on the Exe, one being a very fine adult; and Woodcocks were plentiful in the poulterers' shops; they have been extraordinarily numerous in Devon this winter, though they arrived late, hardly any being seen before Nov. 10th. Another Goosander occurred on the river. About the 5th there was a great increase in the number of Ducks on the river, and many male Wigeon, some adult Scaups, a female Goldeneye, a young Sheldrake, and a White-fronted Goose were shot. I saw many Bar-tailed Godwits and a Grey Plover in the poulterers' shops. About this time a few Wild Swans (Whoopers) were obtained at Bude on the north coast. I hear from Messrs. E. A. S. Elliot and R. P. Nicholls, of Kingsbridge, that there have been vast numbers of wildfowl on the Leys in their district this winter. Several Bitterns have been killed, and Mr. Walter Toll saw more than two hundred Shovellers together on Slapton Ley. Redwings, Fieldfares, Larks, Tree Sparrows, Bramblings, and Woodcocks have been very numerous; the Larks were by thousands. Mr. Elliot killed a Bean Goose on the Estuary on Dec. 29th; there was only one other bird with it. Eleven Geese—believed to be White-fronted—were also seen. A female Smew was shot on Slapton Ley in Mr. Toll, who killed a female Summer Duck there in December; the latter, no doubt, had escaped from some ornamental water. Sheldrakes, Scaups, Long-tailed Ducks (immature), one Pochard, Goosanders, Northern and Red-throated Divers, and Grebes have also occurred near Kingsbridge. On Dec. 31st a Knot was brought to Mr. Elliot—a very unusual occurrence for the time of the year. By the local newspapers, I see that a great flight of birds was seen on Dec. 21st crossing the Bridgwater flats in Somersetshire in a south-westerly direction, and appears to have proceeded down the valleys of the Culm, Exe, and Otter to the south coast, keeping on till the birds reached the South Hams of Devon, where they congregated by thousands. Mr. Lipscombe, at East Budleigh, observed this flight, and says it consisted entirely of five species, Redwings, Fieldfares, Starlings, Larks, and Lapwings, and was coming down the valley of the Otter. Large numbers were also seen streaming to the south down the valley of the Axe. In that part of Devon the Larks are described as having descended on the kitchen-gardens like a flight of locusts, and to have devoured all the green food to be had. At Southampton, Larks, &c., were seen coming in from the sea, having apparently crossed the channel. — W. S. M. D'URBAN (Moorlands, Exmouth).

Grey-headed Wagtail in Warwickshire and Worcestershire.—On May 3rd, 1887, I received three Wagtails which had been shot in a meadow

at Sheldon, Warwickshire. One of the three you have identified for me as *Motacilla flava*. There was a considerable flock of these birds, as the farmer who shot them told me at the time that they were "dotted all over his meadow amongst the cows," and were very tame. After the second day they all disappeared and did not return. About the same time (the 5th or 6th May), whilst digging in my garden at King's Heath, Worcestershire, one of these elegant little birds settled so close to me that I could clearly see the characteristic pale eye-streak, and its glistening black eye. It returned repeatedly during the day to the little heap of manure on one of the beds, and on the following day disappeared. It was undoubtedly one of the Sheldon flock, for King's Heath, in Worcestershire, is not more than ten miles, as the crow flies, from Sheldon, Warwickshire, the two counties adjoining. All four birds were apparently immature.—F. COBURN (Holloway Head, Birmingham).

Sabine's Snipe in Ireland.—I obtained a very fine specimen of this variety from a lot of Snipe sent into our market on the 17th January last. The whole plumage of the bird is sooty black, with minute markings of yellowish brown over head, neck, wings, and back: no indications of the stripes on back or head so conspicuous in the common form; the under wing-coverts and axillary feathers are plain black—no dappling or bars whatever. The bird proved, on dissection, to be a male, in good condition, weighing 4½ oz., and measured, from front of bill to extremity of tail, 11 in.; bill, 2½ in., which, with the legs, were greyish black.—EDWARD WILLIAMS (2, Dame Street, Dublin).

Pied Flycatcher near Harwich.—On the 12th May, 1890, two Pied Flycatchers, *Muscicapa atricapilla*, were seen in a garden at Dovercourt: and the male was shot by a boy scaring birds. This is the first instance that I know of its having occurred in this neighbourhood. I have only once before seen this species in the eastern counties; that was a solitary bird, some years since, at Northrepps, near Cromer, in Norfolk.—F. KERRY (Harwich).

Rose-coloured Pastor in Warwickshire.—On the 10th November last an immature female of *Pastor roseus* was shot from a flock of Starlings at Sutton Coldfield. The bird had commenced the moult into the adult plumage, the black feathers just appearing amongst the primaries, tertials, central tail-feathers, and under tail-coverts. The rest of the plumage is greyish or slaty brown, with indications of buff under the tips of the feathers on breast and back. There is no white on throat, the colour being the same greyish brown as on the head and neck.—F. COBURN (Holloway Head, Birmingham).

Parrot Crossbill in Ireland.—It is a curious fact, and perhaps worth recording, that all the examples of Crossbill which I have received for

preservation during the past six months from different parts of Ireland have all belonged to the thick-billed form, *Loxia pityopsittacus*. From the recent scarcity of specimens sent in, it would seem that the great immigration of these birds has now ceased (Jan. 17th), although in a few districts some appear to have permanently settled.—EDWARD WILLIAMS (2, Dame Street, Dublin).

Notes from the North of Ireland.—The recent severe weather has brought in some uncommon birds, and the following have come under my notice:—A Bewick's Swan was shot at Lissanoure Castle, Co. Antrim, on Dec. 17th. Two fine male Goosanders were shot on the River Derg, Co. Tyrone, on Jan. 12th, and were sent to Belfast to be stuffed: they were shot by an old sportsman, who states that he only once saw two similar birds there, about sixteen years ago. On Jan. 20th a beautiful male Smew was shot on Lough Neagh, near Lurgan, and was examined by me. Two days later a second one—also a male, in equally good plumage—was shot about the same place on Lough Neagh. These birds are very rare here. On Jan. 30th an immature female Sea Eagle was shot at Mountstewart House, Co. Down, by Mr. N. N. W. Apperly, private secretary to Lord Londonderry. I saw this bird in the flesh; it measured 7 ft. 6 in. from tip to tip of wings, and weighed 9½ lbs. A second Eagle, but a good deal smaller, was seen with it. For some time a flock of fourteen Wild Swans have been seen flying backwards and forwards between the sea and a mill-dam near Donaghadee, Co. Down; and on Feb. 10th Major Delacherois shot one on the dam, after a difficult stalk: it is a Bewick's Swan, and weighed 13 lbs.—ROBERT PATTERSON (1, Windsor Park Terrace, Belfast).

Mortality of Small Birds during the recent Frost.—I have just heard of a curious circumstance which occurred during the recent frost at Farringdon, Hants, the adjoining parish to Selborne. On Dec. 30th a barley-rick was taken in, and on turning over the bottom, which was composed of hop-bines, 125 birds were found. Of these, seven or eight were Blackbirds and Thrushes, a like number of Starlings, and the rest Green finches and Chaffinches. I suppose that these birds crept in for warmth, and, being near the ground, were killed by the frost. Near this place, also, some Starlings, which went up to roost in some ivy by a house, were all found dead in the morning, frozen, with their heads under their wings. In his account of the great frost 102 years ago, Gilbert White has described many of the phenomena which I have noticed this winter in connection with birds in general.—W. H. TUCK (Tostock House, Bury St. Edmunds).

Hybrid Turtle Doves.—An account of the interbreeding of the Turtle Dove, *Turtur communis*, and the Barbary Turtle Dove, *T. risorius*, may perhaps interest the readers of 'The Zoologist.' Late in the summer of 1889 I took three young Turtle Doves, which I at first had to feed by

hand. As soon as they could feed themselves I turned them into an out-door aviary, where were several of the Barbary Turtle Dove, both the ordinary variety and also the white variety, popularly called "White Java Doves." The Turtle Doves stood the winter very well, and after they had moulted I saw that there were two cocks and one hen, though I had been fairly sure of their sex for some time before; for the two cocks, much to my surprise, frequently "cooed" during the winter while still in their nestling plumage. Towards the end of last March I noticed the odd cock Turtle Dove "kissing" a young white hen, so I at once removed them into an aviary, where there were no other doves except one cock Barred Dove. The young white hen had laid twice already, but she had not secured a mate, and her eggs proved unfertile on each occasion. On the 20th May I found that the white hen had laid two eggs in a nesting box lined with hay; the cock Turtle Dove sat during the daytime and the hen at night, as is usual with *Turtur risorius*, and probably also with *T. communis*. During the period of incubation I noticed one very curious circumstance: both birds, but especially the white hen, were very shy about being seen on the nest; during the first week the hen would fly off whenever I appeared, whereas, when she was sitting on the two previous occasions, she used to strike at me with her beak and wings whenever I touched her. On this occasion, up to the very last, even when the eggs were hatched, she would never stay on the nest long enough to let me touch her, though it is usual for all my *Turtur risorius* to sit as closely as a brooding fowl. Does not this shyness suggest that the bird herself was well aware that she was doing something rather out of the common? Her two eggs nearly came to grief, for one day I found a small indentation and crack in the shell of each egg, made by the beak or claw of some bird: however, the skins of the eggs were not broken, so I mended them with plaster-of-paris, gum, and tissue-paper! Finally, after fourteen days' incubation, two very dark-skinned little birds appeared: they grew very rapidly and fledged well, and in about three weeks' time left the nest, and began catering for themselves. They now looked like pure-bred nestlings of the Turtle Dove, except that they already had the black and white patch on the sides of the neck, nearly as distinct as in old birds, whereas in the pure-bred young of the Turtle Dove this patch does not appear till after the moult, and in the young of the Barbary Dove the black colour is very indistinct till after the moult; in the adult white doves one can see, so to speak, where the collar ought to be; the white feathers there look quite different to those on the other parts of the bird. In the young white dove one can hardly see any trace at all of the collar. It appears to me very curious that the young hybrids should have had a well-developed neck patch, which the pure-bred offspring of each parent bird are without at that age. The birds have got into their full plumage now, and resemble a pure-bred Turtle Dove very

closely: they are without the black-brown splashes on the upper parts of the Turtle Dove; their foreheads are very light grey, and generally they are slightly lighter coloured than pure Turtle Doves. A few weeks ago I had the pleasure of seeing three hybrids bred between a cock Turtle Dove and a hen Barbary Turtle Dove of the ordinary variety. As might be expected, these birds are exactly like my hybrids, except for being slightly darker. One had been bred in 1889, two in 1890; the two were still in nestling plumage, and these again showed well-developed neck patches. The birds were all together in a small enclosure, and the owner assured me that the 1889 bird had not been at all vicious with its parents during the last summer. I mention this fact because it is often thought that hybrids are always particularly quarrelsome. My white hen laid again towards the end of September, but the Turtle Dove refused to help her to incubate, and after she had been sitting alone for a week I found the eggs were unfertile, and took them away. Do any readers of 'The Zoologist' know of an instance of cross-bred doves breeding either amongst themselves or with the parent species on either side? My two birds appear, from the difference in their size, and also from the depth of the vinous coloration of the breast, to be cock and hen. I shall do my best next summer to prove whether they are fertile or not; and, inasmuch as hybrid pheasants and waterfowl are fertile, I think the doves will probably prove to be so too.—E. W. H. BLAGG (Cheadle, Staffordshire).

Ornithological Notes from Harwich.—During the month of August last, a number of Greenshanks frequented the mud-flats of the rivers Stour and Orwell; there were quite fifty in one flock, out of which three were killed at one shot, as they were feeding on the ooze. There were also several family parties of Green Sandpipers, many more than usual, and Common Sandpipers were everywhere. In September many Little Stints and Curlew Sandpipers appeared, and six of the former were shot; Godwits were fairly common, but Knots, on the contrary, were scarce; one old bird, with a good red breast, was shot on the mud-flats of the river Stour on the 6th October; this, I think, is a rather late date for this bird to retain its breeding plumage. On the 8th the Hooded Crows arrived, as usual; on the 11th many Golden Plover appeared; on the 13th two Shore Larks were shot on a piece of waste land quite near the town; five were shot on this same piece of land on the 12th December, last year. During the stormy weather about the 15th October several Skuas were seen, and one, a female Pomatorhine Skua, shot; on the 18th, Bramblings, Goldcrests, and Jack Snipe appeared; on the 22nd a pair of Tufted Ducks were shot on the river Stour; the ova of the female were well-developed, some as large as No. 2 shot. On the 2nd November a flock of Snow Buntings, in all stages of plumage, were seen on the beach at Dovercourt.—F. KERRY (Harwich).

Notes from Essex.—On visiting our local birdstuffer, Mr. Pettitt, on Dec. 6th, I saw some fresh arrivals, mostly in the flesh; and although none of them were very rare, they may be of sufficient interest to record in 'The Zoologist.' The first, an immature specimen of the Sea Eagle, *Haliaeetus albicilla*, was shot somewhere in this locality; but he could not say where, as the owner had not informed him. A Shore Lark, *Otocoris alpestris*, shot at Burnham, Essex. A Bittern, *Botaurus stellaris*, killed at St. Osyth. Two Bewick's Swans, *Cygnus Bewicki*, killed near Brightlingsea: I hear that there were five killed at one shot, and that several have been seen. One Smew, *Mergus albellus*, also killed near Brightlingsea. One Great Northern Diver, *Colymbus glacialis*, shot near the same place; and one Black-throated Diver, *C. arcticus*, shot near Mersea. — HENRY LAVER (Colchester).

Curious resting-place for Kingfisher.—On Nov. 26th, whilst walking on the shores of Lake Lemán, a Kingfisher passed me, and flew up into the paddle-box of one of the lake steamers lying in the dock at Ouchy for the winter. The presence of several men working all about the steamer at the time did not seem to frighten the bird in the least. Kingfishers are not uncommon here, and may often be seen on the artificial breakwaters along the shore.—G. H. EASTWOOD (Closelet, Lausanne).

Bittern in Glamorganshire.—Since noting the occurrence of the Shoveller, *Anas clypeata*, here, the Rev. H. Morgan-Stratford, of St. Athan Rectory, near Cambridge, has written to tell me that a Bittern, *Botaurus stellaris*, was shot on Dec. 16th, 1890, on the Tregough Moors, near Cowbridge, by a farmer living near the village of St. Athan. He gave the bird to Mr. Morgan-Stratford, who is having it preserved for his collection — DIGLEY S. W. NICHOLL (The Ham, Cambridge).

Bittern in Somersetshire.—On Dec. 2nd I saw a Bittern, *Botaurus stellaris*, in the hands of a birdstuffer at Bridgewater. It had been shot that morning at Huntworth, about two miles from the town, and sent to him for preservation.—H. ST. B. GOLDSMITH (King Square, Bridgewater).

Grey Phalarope in Essex.—A specimen of the Grey Phalarope, *Phalaropus fulicarius*, was shot on the marshes near Stratford on Nov. 8th. It is in the hands of Mr. Murray, taxidermist, Stratford, for preservation. —ARTHUR F. GATES (Marsh Gate Lane, Stratford).

Osprey in Warwickshire.—On the 20th of September last a friend and I observed an Osprey soaring over Longmore Pool, ~~without success, although he cast longing eyes into a fisherman's punt not thirty-five yards below him.~~ Thence he flew to Powell's Pool, and out of sight, and I trust out of danger. —J. S. ELLIOTT (Sutton Coldfield).

Albino Ring Ouzel.—On October 15th, 1890, the Torquay Natural History Museum received a perfect albino Ring Ouzel. The bird was young,

well nourished, and was shot by Mr. Wolfe on Dartmoor.—GEO. A. MUSGRAVE (Furzebank, Torquay),

Spotted Crake in Somersetshire.—Five of these birds were brought to me lately, the last so recently as Dec. 8th, which seems very late for a bird which is generally considered to be a summer migrant. The five examples were all killed within a few miles of Weston-super-Mare.—F. A. KNIGHT (Weston-super-Mare).

[Possibly they were all individuals of a late brood.—ED.]

Spotted Crake in Staffordshire.—On the 3rd of November I killed a male specimen of this bird, whilst feeding on the edge of a pool. Its gizzard was full of seeds.—E. TYE (Handsworth, Birmingham).

The Dartford Warbler in Dorset.—The Dartford Warbler usually survives the cold of our winters, but the extreme severity and long-continued snow of 1880 and 1881 killed off every Dartford Warbler from this district (Lyme Regis). Year by year I have searched localities where this bird was abundant before those two disastrous winters, but have not met with a single individual. I am told that they have appeared in some parts of the county since that date, but they have not extended to these parts. It would be interesting to learn the experience of observers of this bird during the past winter, in districts where it may yet survive.—ARTHUR LISTER.

Common Skua in Leicestershire.—On Sept. 16th, 1890, a Common Skua, *Lestris catarrhactes*, was picked up dead, near the pool in Bradgate Park, by Mr. Sharp. I saw it at Pinchen's, taxidermist, Leicester, to whom it had been sent for preservation. He reported that it was uninjured, and appeared to have died from starvation. There are two previous doubtful notes of its occurrence in Leicestershire, but I believe this is the first authentic record.—THOS. MACAULAY (Kibworth).

Goosander in West Sussex.—A fine male Goosander, *Mergus merganser*, was shot at West Harting, on the western Rother, by Mr. Charles Harris, of Durford, on Jan. 16th, and has been sent to Mr. Pratt, Brighton.—H. D. GORDON (Harting Vicarage, Petersfield).

SCIENTIFIC SOCIETIES.

LINNEAN SOCIETY OF LONDON.

February 5, 1891.—Prof. STEWART, President, in the chair.

Messrs. Richard Bentley and E. S. Goodrich were admitted; and Messrs. T. F. Bourdillon, C. T. Keane, and Prof. A. Milnes Marshall were elected Fellows of the Society.

Mr. Clement Reid exhibited and described some recent additions to the fossil arctic flora of Britain.

Mr. Thomas Christy exhibited and made remarks on some specimens of honey:—(1), "Arbutus honey," from Turkey, said to produce great drowsiness and sleep; (2) "Eucalyptus honey," from Mount Barker, Adelaide, said to possess valuable therapeutic properties; and (3) so-called "Wool honey," from the Euphrates, collected by natives from the leaves of the oak, which would be more properly termed "honey-dew," being formed by aphides, and not by bees.

Mr. J. E. Harting exhibited a living albino example of the Common Frog, *Rana temporaria*, captured in Wiltshire in September last, and remarked upon the infrequency of albinism amongst the Batrachia and Reptilia, of which he had only been able to find four or five recorded instances.

On behalf of Mr. Gammie, of Sikim, Mr. C. B. Clarke gave an abstract of an interesting paper on the Tree Ferns of Sikim, in which several moot points were discussed and difficulties cleared up.

The next paper was one by Prof. W. A. Herdman, on a revised classification of the *Tunicata*. Taking as a basis the scheme of classification adopted in his Report on the 'Challenger' collection, he incorporated the various known genera and species not represented in this collection, and discussed the general principles to be recognised in classifying the *Tunicata*, especially dwelling on the value of the various modifications of the branchial sac, and of the tentacles. The polyphyletic origin of the group *Ascidia compositæ* was pointed out, and the relations between simple and compound Ascidians were shown by means of a phylogenetic diagram.

A paper was then read by Prof. G. B. Howes, in which he gave a description of the genitalia of six hermaphroditic Codfish examined by him, and a *résumé* of what is known on the general subject of hermaphroditism amongst fishes, more particularly referring to the *Teleostei*, which exhibited the most nearly primitive condition of the genital gland realised by living Vertebrata. He regarded the genital duct of the *Teleostei* as homologous in both sexes, representing a primitively hermaphrodite duct of the ancestral chordata. He sought to homologise it with the proliferating mass described by Balfour and Sedgwick, Fürbinger, and others, as entering into the formation of the base of the Müllerian duct proper, and regarded it as having been replaced by that structure on the advent of uni-sexuality. Several other points were touched upon of special interest to physiologists.

ZOOLOGICAL SOCIETY OF LONDON.

February 3. 1891.—Prof. FLOWER, C.B., LL.D., F.R.S., President, in the chair.

The Secretary read a report on the additions that had been made to the Society's Menagerie during the month of January, 1891; and called special

attention to a Yellow-crowned Penguin, *Eudyptes antipodum*, from Stewart Island, New Zealand, presented by Sir Henry Peek, Bart., new to the collection.

A letter was read from Dr. Emin Pasha, dated "Bussisi, Oct. 6, 1890," announcing the despatch to the Society of a collection of birds which he had made on his way up from the coast.

The Secretary exhibited, on behalf of Mr. J. W. Willis Bund, a specimen of the Collared Petrel, *Æstrelata torquata*, which had been shot off the Welsh Coast in Cardigan Bay, in December, 1889, and was new to the British Avifauna. This is the specimen which was exhibited by Mr. Harting at a meeting of the Linnean Society on the 6th November last, and of which a detailed account was given ('Zoologist,' 1890, p. 454).

A communication was read, from Dr. R. W. Shufeldt, containing remarks on the question of saurognathism of the Woodpeckers, and other osteological notes upon that group.

Count T. Salvadori pointed out the characters of two new species of Parrots of the genus *Platycercus*, which he proposed to call *P. xanthogenys* and *P. erythropeplus*, both believed to be from Australia.

Mr. P. L. Sclater gave an account of a collection of birds, from Tarapacá, Northern Chili, which had been made for Mr. H. Berkeley James, by Mr. A. A. Lane. Fifty-three species were recorded as represented in the series, amongst which was a new Finch, proposed to be called *Phrygilus coracinus*.

Mr. F. E. Beddard gave an account of the pouch of the male Thylacine, from a specimen recently living in the Society's Menagerie. Mr. Beddard also described the brain of this animal, and pointed out its differences from the brains of other marsupials.

ENTOMOLOGICAL SOCIETY OF LONDON.

February 4, 1891.—Mr. FREDERICK DUCANE GODMAN, M.A., F.R.S., President, in the chair.

The President nominated the Rt. Hon. Lord Walsingham, M.A., F.R.S., Professor Raphael Meldola, F.R.S., and Dr. David Sharp, F.R.S., Vice-Presidents for the Session 1891-92.

Dr. Thomas A. Chapman, M.D., of "Firbank," Hereford; Mr. Horace St. John Donisthorpe, of "Belvedere," Crystal Palace Park Road, S.E.; Mr. F. W. Frohawk, of 9, Dornton Road, Balham, S.E.; Mr. E. Ernest Green, of 10, Observatory Gardens, W.; Mr. G. F. Hampson, B.A., of Thurnham Court, Maidstone; Mr. Frederick J. Hanbury, F.L.S., of 69, Clapton Common, Upper Clapton, N.E.; and the Hon. M. Cordelia E. Leigh, of Stoneleigh Abbey, Kenilworth, were elected Fellows of the Society.

Mr. C. J. Gahan called attention to a larva which he had exhibited at the meeting of the Society on the 1st October last, when some doubt was expressed as to its affinities. He said that Prof. Riley had since suggested that the larva was that of a dipterous insect of the family *Blepharoceridæ*; he was quite of the same opinion, and thought it might probably be referred to *Hammatorrhina bella*, Löw, a species from Ceylon.

Mr. Tutt exhibited a long series of *Agrotis pyrophila*, taken last year by Mr. Reid, near Pitcaple, in Aberdeenshire, and remarked that this species had been commoner than usual last year in Scotland, the Isle of Portland, and the Isle of Man. He also exhibited long and variable series of *Melitæa aurinia* (*artemis*), *Triphæna orbona*, *Abraxas grossulariata*, and *Melanippe fluctuata*, all from the same locality in Aberdeenshire.

The Rev. Canon Fowler exhibited a cocoon of *Deiopeia pulchella*, recently received from Lower Burmah.

Mr. C. O. Waterhouse exhibited specimens of *Scyphophorus interstitialis*, a Mexican species, and *Aceraius comptoni*, a Ceylon species, recently taken by Mr. Bowring in his greenhouse. He also exhibited, on behalf of Miss Emily Sharpe, a specimen of *Daphnis hypothous*, Cramer, a native of Borneo, Java, and Ceylon, caught some years ago at Crieff, N.B. The specimen had long been confused with *Charocampa nerii*, under which name its capture was recorded in 'The Entomologist,' xiii. p. 162 (1880).

The Rev. Dr. Walker exhibited a collection including many species of Orthoptera and Scorpions recently received from Jerusalem.

Mr. Frederick Enock read an interesting paper entitled "The Life-History of the Hessian Fly." This paper was illustrated, by means of the oxy-hydrogen lantern, with a number of photographs of original drawings showing the fly in all its stages and transformations. Mr. G. H. Verrall said he believed the Hessian Fly was no more a recent introduction into this country than the Cabbage White Butterflies. The discussion was continued by Mr. Godman, Mr. Enock, and others.

Mr. Roland Trimen communicated a paper entitled "On some recent Additions to the List of South African Butterflies."

Mr. H. W. Bates communicated a paper entitled "Additions to the Carabideous Fauna of Mexico, with remarks on species previously recorded."

Mr. W. F. Kirby read a paper entitled "Notes on the genus *Xanthospilopteryx*, Wallgr."

Dr. D. Sharp contributed a paper entitled "On the Rhyncophorous Coleoptera of Japan," Pt. 2.—H. GOSS & W. W. FOWLER, *Hon. Secretaries*.

